

account of its quick growth and its value as a timber tree, the wood being exceedingly hard and durable. With regard to its supposed beneficial effects in malarious districts, Dr. Hooker says he is "still unable to endorse the views of those who regard the tree as capable of cultivation in tropical swamps and as a prophylactic against ague and fever."

The prospects of the *Ipecacuanha* cultivation in India is, we are told, not very encouraging, owing rather to the slow growth and small yield of the underground root stock from which the drug is obtained, than to the want of success in growing and propagating the plants. "Nevertheless the cultivation must be persevered in. The causes that retard the progress of this valuable herb under cultivation are those that raise the price of it in its native country. Were it a plant that increased rapidly, it would be with difficulty eradicated from the forests which it inhabits."

One very important matter mentioned in the report is that referring to the new Herbarium, the site for which is not yet, however, determined upon. It is, moreover, satisfactory to learn that when erected it will, through the liberality of Thomas Philip Jodrell, Esq., M.A., the founder of the Jodrell Professorship (of Physiology) in University College, London, be associated with a laboratory for physiological botany. The contributions to the Gardens of living plants and seeds, to the Herbarium of dried plants, and to the museums of economic specimens, have been exceedingly numerous and interesting.

NOTES

M. JANSSEN's appointment as the head of a new French Physical Observatory, which we intimated some time ago, has been gazetted. The French Government, we believe, wishes to give M. Janssen the choice of having the Observatory built at Fontenay, as was originally decided upon, or at Vincennes, which is at a less distance from Paris.

MR. WATSON, at Monday's sitting of the French Academy, read a long and interesting paper on the observations of the Transit of Venus made at Peking station, of which he was the chief. The question of the atmosphere of Venus and the difficulty of determining the exact time of real contact were examined at full length. M. Leverrier expressed his decided opinion that the determination of the parallax of the sun by this method was useless unless some unexpected service should be rendered by photography for solving the difficulty raised by Mr. Watson. Mr. Watson tried to discover to what height the atmosphere of Venus was liable to cause optical disturbances by its illumination by the sun, and he found it to be fifty-five miles, about 1-70th the diameter of the planet.

THE Kirtland Summer School of Natural History (named in honour of Dr. Jared P. Kirtland) was inaugurated July 6, 1875, in Cleveland, Ohio (U.S.) The session this year extended through five weeks, closing August 9, with appropriate exercises. The school was founded on behalf of the Kirtland Society of Natural Sciences, by Prof. Theo. B. Comstock and Dr. Wm. K. Brooks. Instruction was given in botany and entomology by Prof. Theo. B. Comstock, of Cleveland; in general invertebrate zoology by Dr. Wm. K. Brooks, of Cambridge, Mass.; in microscopy and protozoa by Prof. Albert H. Tuttle, of the Ohio Agricultural and Mechanical College, Columbus, Ohio; and a short course of lectures on geology was given by Dr. J. S. Newberry, of Columbia College, New York City, Director of the Ohio Geological Survey. The work was all done in the laboratory and in the field, text-books being wholly discarded. Twenty-five enthusiastic pupils, many of them lady teachers, availed themselves of the advantages afforded for the small fee of ten dollars. The expenses were paid by a subscription fund, the instructors receiving but slight compensation by a division of the small balance in hand. The session was very profitable, and it is hoped that the school will be continued year after year.

THE French Department of the International Maritime Exhibition contains a large number of apparatus intended for

the raising of wrecks from the bottom of the sea. Working models of these have been sent in by M. Bazin, an engineer. This inventor has organised an immense submarine observatory which enables the bottom of the sea to be inspected with perfect security. M. Roselli, an Italian engineer, exhibited a self-moving gigantic grapple, which being worked by steam could render great service to raise even such heavy weights as the *Vanguard*. M. Bazin has also invented a ship for dredging at small depths when it is necessary to open a channel for a port. Several ships of this kind have been constructed for the Russian Government, and are now at work in Russian waters. The principle involves the use of syphons, which are let down to the bottom and are so worked as to send mud, sand, and water into the main hold of the vessel, from which they are taken out by powerful steam-engines.

A UNIVERSITY is to be founded at Tomsk, one of the chief towns of Siberia. The new establishment will have only two faculties, one of Law and the other of Medicine. The want of doctors in Siberia may be inferred from the fact that there are only fifty-five of them in a country which is as large as the whole of Europe, and whose population amounts to more than 6,000,000 inhabitants. The Russian Minister of Finance has granted a credit of 40,000*l.* on the revenue of the State for the new establishment, which will raise the number of Russian Universities to eight, seven others being already in existence, viz., St. Petersburg, Moscow, Kiev, Kazan, Kharkow, Odessa, Varsovie, besides two foreign Universities—a German one in Dorpat, and a Swedish one in Helsingfors. A new University is also to be established in Vilna.

CAPTAIN WATERHOUSE writes that he has verified Dr. Vogel's discovery of the influence of certain dyes in increasing the sensitiveness of bromide of silver to the less refrangible rays of the spectrum.

AN examination will begin at Merton College on Tuesday, October 12, for the purpose of electing to one Mathematical and one Physical Science Postmastership. The postmasterships are of the annual value of 80*l.*, and are tenable for five years from election, or so long as the holder does not accept any appointment incompatible with the pursuance of the full course of University studies. After two years of residence the College will raise by a sum not exceeding 20*l.* per annum the postmasterships of such postmasters as shall be recommended by the tutors for their character, industry, and ability. Further information may be obtained from the Mathematical and Physical Science Tutors.

MR. E. J. MILLS, D.Sc., F.R.S., has been appointed Young Professor of Technical Chemistry in Anderson's College, Glasgow, on the resignation of Prof. Gustav Bischof.

WE would direct the attention of zoologists to a sketch and description by Prof. Wilder, of Cornell University, in the *American Journal of Science and Art* for last month, of a foetal Manatee whose total length is 3.7 inches. "The head (which is somewhat pig-like) is strongly flexed upon the chest, and the tail forms a right angle with the trunk;" a contour very different from the adult animal being the result. The specimen was obtained at Pebos, Peru, upon the Marañon, a tributary of the Amazons, by Prof. James Orton.

IN a letter to yesterday's *Times*, Mr. W. L. Watts gives a long description of a volcanic eruption which he witnessed last month on the Myvatns Oröfi, in Iceland.

THE Berlin Geographical Society has received a telegram from Lisbon, dated the 11th inst., announcing that Dr. Pogge and Lieut. Lux, with their African Exploring Expedition, were on their way from Cassandje to Lunda. Major von Homeyer was still on the coast.

SOME of our readers may be glad to learn that the *Philosophical Magazine* for the present month contains, in full, Mr Croll's paper on "The Challenger Crucial Test of the Wind and Gravitation Theories of Oceanic Circulation," read before the British Association.

THE second number of Mr. Flemming's *Veterinary Journal* maintains its promised standard of excellence. The original articles are instructive, and the manner in which the most recent home and foreign investigations are placed before the reader will add greatly to the facilities for acquiring advanced information. We would direct special attention to the translation, from the German, of Prof. Siedamgrotzky's observations on the Thermometry of the Domesticated Animals.

A NEW American fossil Crustacean from the Water Lime Group, named by its discoverers, Mr. A. R. Grote and Mr. W. H. Pitt, *Eusarcus scorpionis*, is described and illustrated by an excellent photograph in the last number of the *Bulletin of the Buffalo Society of Natural Science*. It is allied to *Eurypterus* and *Pterogotus*, but is peculiar in the narrowness of the cephalo-thoracic portion, and the sudden constriction of the terminal segments.

MR. WILLIAM LONGMAN has reprinted in a separate form his interesting article in the August number of *Fraser's Magazine*, "Impressions of Madeira," containing some interesting notes on the natural history, scenery, climate, and life of the island. A good map accompanies the paper.

THE Report of the Council of the Leicester Literary and Philosophical Society speaks hopefully of its position and prospects. The Society is now in its fortieth year, has more than 250 members, and is regarded as "the leading institution for the cultivation of literary and scientific tastes" in the town and county. The Society has resolved to commence the publication of Transactions by bringing out gradually a brief but complete history of the proceedings of the Society from the date of its formation. In speaking of the decreasing attendance on the lectures by eminent outsiders, the Report gives a hint to scientific lecturers which we reproduce here for the sake of those whom it may concern:—"It must be acknowledged that the professors have sometimes relied too much upon their reputation, and given to a critical audience mere badly arranged notes, or information which any handbook would supply. And it is not too much to say that the quality of the lectures delivered gratuitously by the Society's own members and friends is of such a character that the advantage on the side of the professors is not always very striking." We hope the Society will go on with increased vigour when it enters upon its new premises, and especially that the various sections will set themselves to organise really valuable practical work.

FROM the Third Report of the Leicester Town Museum, we notice that several important additions have been made during the year, and that the Committee are in earnest to make the collection serve a really educational purpose. We hope that when the new premises are ready and the Museum transferred, that it, like the Leicester Society, will take a decided step forward. We are glad to see that the gratuitous lectures in connection with the Museum have been fairly well attended.

WE have received the Fifty-fourth Annual Report of the Board of Direction of the Mercantile Library Association of New York. This library is the fourth largest in the United States, and contains upwards of 155,000 volumes, with a membership of upwards of 8,000. The library seems to be well administered and to serve a very useful purpose, and, to judge from the report of books added during the past year, contains a fair amount of scientific literature.

FROM the Forty-first Annual Report of the York School

Natural History, Literary, and Polytechnic Society, we are glad to see that the first-named branch obtains a fair amount of attention.

THE night of July 7-8, 1875, will be long remembered in Switzerland for the thunderstorms, several of them of almost unexampled severity, which occurred in Val de Travers, Liestal, Lucerne, Argovie, Zurich, and St. Gall (Rapperswyl), Langenthal, Grisons, Valais, Fribourg, and Geneva. Of these, the thunderstorm which broke over Geneva was unprecedentedly severe and disastrous. A detailed account of the phenomenon has been sent us under the title "L'Orage du 7 au 8 Juillet, 1875. Extrait du *Journal de Genève*, du 9 au 12 Juillet." It appears to have originated to westward in the department of Ain, and took an easterly course up the valley of the Rhone to Geneva, on reaching which it spread over a wider area, and thence directed its course over Savoy. As midnight came on, though the heat was suffocating and not a breath of wind stirred below on the streets, light objects on the roofs of the houses began to be whirled about and carried off as by a tempest of wind. At the same time a dull rumbling sound, resembling neither that of wind nor that of thunder, announced the approach of the thunderstorm, and at 12 midnight exactly it burst over Geneva in all its fury. An avalanche of enormous hailstones with no trace of rain was precipitated from the sky, and shot against opposing objects by a tempest of wind from the south-west. In a moment the street lamps were extinguished, and in a brief interval incredible damage was inflicted, the glass and tiles of houses smashed to powder, trees stripped of their bark on the side facing the west, and crops of every sort were in many places all but totally destroyed. The smallest of the hailstones were the size of hazel-nuts, many were as large as walnuts and chestnuts, and some even as large as a hen's egg. Some of the hailstones measured four inches in diameter, and six hours after they fell weighed upwards of 300 grammes. For the most part the hailstones were of a flattish or lenticular form, with a central nucleus of 0.16 to 0.40 inch diameter, enveloped in several concentric layers of ice, generally from 6 to 8, alternately transparent and opaque. An interesting map accompanies the description, showing the districts where the storm was felt as well as the degree of its intensity in each locality. The electrical phenomena were very remarkable; the flashes of lightning succeeded each with so great rapidity from midnight till a few minutes after 1 o'clock in the morning, that a mean of from 2 to 3 were counted each second, or from 8,000 to 10,000 per hour. Electrical phosphorescence was remarkably intense before and during the hail. The ground, animals, prominent objects, as well as the hailstones, were strongly phosphorescent. Immediately after the hail, ozone was greatly developed, the smell being so pronounced as to be compared by nearly all observers to garlic. The incessant electrical discharges passed from cloud to cloud over a central point from which the hail fell, but thunder was very rarely heard.

THE additions to the Zoological Society's Gardens during the past week include a Syrian Fennec Fox (*Canis famelicus*) from Persia, presented by Mr. Edwin Sandy Dawes; two Glaucous Gulls (*Larus glaucus*) from Greenland, presented by Capt. Loftus F. Jones; two Fork-tailed Jungle Fowl (*Gallus varius*) from Java, presented by Mr. W. Fraser; a Royal Python (*Python regius*) from West Africa, presented by Capt. H. T. M. Cooper; a Dotterell (*Charadrius morinellus*), European, presented by Dr. C. R. Bree; a Weeper Capuchin (*Cebus capucinus*), a Golden-crowned Conure (*Conurus aureus*) from South-East Brazil, eleven Blackish Sternotheres (*Sternotherus subniger*) from Madagascar, deposited; a Malabar Parrakeet (*Palaornis columboides*) from South India, a Blue-crowned Conure (*Conurus hamorrhous*) from Brazil, two Burrowing Owls (*Pholiotyptis cucullata*) from America, purchased.